Report on
HIGHER EDUCATION
VISION 2020

KARNATAKA JNANA AAYOGA
(KARNATAKA KNOWLEDGE COMMISSION)
GOVERNMENT OF KARNATAKA

JANUARY 2013

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Report on

HIGHER EDUCATION VISION - 2020

Submitted by

Mission Group on Higher Education Policy

Karnataka Jnana Aayoga

(Karnataka Knowledge Commission)

Government of Karnataka

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MESSAGE

Accomplishing some of the important elements of the vision of transforming Karnataka into a vibrant knowledge society was quite challenging. Our journey began in 2008 with comprehending the knowledge requirements of the chosen twelve sectors and focus areas. In the last four and half years, our Commission has made 89 recommendations, undertaken 11 projects, commissioned 10 research studies, conducted about 1000 meetings, initiated 3 flagship programs and reached approximately 30000 stakeholders.

This report gives a glimpse of the work of the Aayoga during its four and half year term. The vast and vibrant stakeholders made significant contribution in realizing our vision. The participation and involvement of the Departments in implementing the recommendations helped Aayoga in the pursuit of its mission.

I thank Honourable Chief Minister, former Chief Ministers, Honourable Ministers, Chief Secretary, Principal Secretaries and Secretaries of various Departments of Government of Karnataka for their kind support, trust and acceptance of Aayoga and recognition of its work. The journey of the Aayoga has been the journey of the people of Karnataka towards building a knowledge society. I acknowledge with gratitude the contribution and efforts of members, experts, stakeholders and the team at Aayoga.

Dr. K. Kasturirangan
Chairman
Karnataka Jnana Aayoga
(Karnataka Knowledge Commission)

PREFACE

Education in general and higher education in particular has occupied a centre stage in the 21st century knowledge society. It enables an individual and thereof a society to transform towards a knowledge society. Therefore, education is no longer a choice either for an individual or for a state. It is an imperative tool to realise knowledge economy and society.

The report on "Higher Education Vision 2020" is a culmination of series of meetings and brainstorm sessions with several domain experts and stakeholders spread across the state. The report draws its core elements from the triple objectives-expansion, equity and excellence-set as the overarching goals for higher education to be achieved during the 12 five year plan. The report sets the context in terms of Karnataka and presents the current higher education scenario with its innate challenges. To address these challenges as well as to take advantage of Karnataka's strengths by virtue of having nationally and globally acclaimed institutes of higher education, the report presents several fundamental strategies and key policy recommendations before the Government of Karnataka for implementation.

The report proposes for a higher education system which is student centric in design and approach. The recommendations submitted here revolves around 6 broad areas-student; faculty; assessment, curricular and pedagogy practices; vocational and life-long learning; internationalisation and governance. The policy recommendations call for a paradigm shift in Karnataka's higher education system to empower the aspiring youth as well as all other key stakeholders of the higher education to take on the challenges posed by knowledge-centric society.

I thank the Honourable Minister for Higher Education, Sri. C.T. Ravi for his vision and insights. I am equally thankful to Sri. Siddaiah, Principal Secretary, Department of Higher Education for his constant support. I am greatly thankful to Sri. Mohandas Pai, Chairman, Mission Group on Higher Education Policy, whose perspectives helped in evolving this report. Very special thanks to Prof. Sundar Sarukkai, Co-Chairman, Prof KRS Murthy and Prof. Anitha Kurup, Member, of the Mission Group for their unstinted support in drafting this report. I am thankful to all the Members of the Mission Group on Higher Education Policy for their contribution and keen interested. I thank Mr. Paramashivam, Executive Director of Deloitte for sharing their data and for deputing a consultant to help in data analysis.

My thanks are also due to Mr. Chetan Singai, Research Fellow at NIAS and Mr. Mathew Tharakan, Senior Consultant at Deloitte, for their contributions towards drafting the report. I am thankful to Dr. Padmavathi B.S., for having facilitated the work of the Mission Group as well as this report as the Convenor of the Mission Group.

Prof. M.K. Sridhar, Ph.D.
Member Secretary and Executive Director
Karnataka Jnana Aayoga
Government of Karnataka

FOREWORD

This Vision Document on higher education in Karnataka is a product of many hours of intense discussion by the committee members. We are grateful to these members for sparing their time, energy and freely contributing ideas to this initiative. All of them come with vast experience in higher education from different contexts and hence it was a challenge to integrate these views and choose recommendations which had the support of all the members. That we were able to do it is entirely due to the open minded commitment of these members.

This document is based on one fundamental principle: higher education should primarily be student-centric. All of us are pained at the present situation where students are not treated as autonomous adults who can make choices, take responsibility and partake education in partnership with the teachers. Not only are students not allowed free mobility in choosing colleges and universities, they are also rigidly constrained in the choices of subjects they can take and the work for which they can be evaluated. In a changing world these issues are of prime importance. Education around the world has changed by taking these needs of the students into account. Karnataka cannot afford to lag behind and if it does so, it will only deeply harm our next generation of students.

The world is also globalising rapidly, creating one single market for goods and services. There is increased competition in every country in the business area. The knowledge economy is dominating the economic landscape and the competitive strength of any nation would depend upon the education levels of its populace, their innovative and creative energies and their ability to use the forces of globalisation for their wellbeing. In this scenario it is essential that we enhance our educational standards to improve the knowledge levels of our students, enhance their problem solving skills and make them competitive globally.

A revolution in education is needed for achieving the objectives stated in this report. These include increasing the gross enrolment ratio, increasing the participation of women and disadvantaged communities in higher education, improving the quality of faculty teaching and research, empowering institutions of higher education with more autonomy and financial support, changing the pedagogy in education in tune with the growth of the internet and the explosion of knowledge access as well as increasing accountability to all the stakeholders, including the students. We believe that this report is a small, but perhaps important, step in this direction.

There have been many reports on higher education but the aim of this report is to suggest specific, workable policies which can be implemented by the government and which are enforceable on the ground. We have chosen specific objectives and listed the policy

recommendations which will help Karnataka achieve these objectives. We are confident that the State will take this report seriously and perhaps implement these recommendations urgently. All of us hope to see a bright new future for higher education in Karnataka very soon where our students will have the ability to make choices.

T.V. Mohandas Pai
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Mission Group on Higher Education Policy
Karnataka Jnana Aayoga

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Director
Manipal Centre for Philosophy and Humanities
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Executive Summary

Karnataka has the potential to become the front runner in higher education imitating its success in the IT sector in particular. Given its potential the vision document here aims to suggest strategies and policy recommendations to achieve the same. For this to happen, it is essential that the State not only envisions achieving an education level which is the best in India, but one which is also competitive with countries of comparable size/system. In line with this, Karnataka envisions itself to transform into a vibrant knowledge society, the report on 'Higher Education Vision – 2020" provides strategies and policy recommendations to guide such transformation. The report discusses set of objectives and conclusions based on the following vision statement: "*to transform Karnataka into a vibrant knowledge society and a centre of excellence in higher education, comparable to global standards, with universal and equitable access, wider choice, flexibility and quality, in an educational environment that promotes creativity, entrepreneurial spirit and a sense of responsible citizenship.*"

In other words, the report on 'Higher Education Vision – 2020' contextualizes the imperatives and directions for reforms in higher education as a key strategy towards transforming Karnataka into a vibrant knowledge society. The report emphasizes that focus on education in general and higher education in particular as one of the main imperatives and thus needs directions. The directions specified in this report operate within the '3-E' model i.e., Equity, Expansion and Excellence, echoing the goals set by the 12th Five Year Plan of the country. The Vision Document proposes to increase the student enrolment in higher education from current 18.1% GER, which amounts to 12, 60,038 students [2012-13] to 35% GER numbering to 22, 58,000 in 2020. i.e., of Increase in enrolment should be accompanied by opportunities to provide equal or universal access to all sections of the society. Consequent to enrolment and opportunities to all, it is important to provide quality education. Thus, this report states imperatives in higher education by examining the status and need for increasing enrolment, ensuring equity and excellence on one hand and suggests directions in terms of strategies and policy recommendations, on the other. Strategies constitute the game plan whereas the policy recommendations provide the direction for state interventions. In sum, the report outlines broad objectives and strategies in the higher education processes and system in order to transform higher education as a centre of excellence thereby enabling building a vibrant knowledge society.

Given the above-context, it is important to reiterate the effective relationship between higher education in particular and the knowledge society. To strengthen the higher education system Karnataka should aim to achieve following broad objectives:

- To provide opportunities to pursue higher education to all and remove disparities by promoting the inclusion of socio-economically deprived sections, women and differently-able persons.
- To enhance support for faculty development in colleges and Universities, and attract high quality talent for careers in teaching and research.
- To undertake reforms to ensure efficient and creative assessment, relevant curriculum and pedagogy practices, and to ensure that these reforms are student-centric in their orientation.
- To expand the institutional base of higher education, by making a paradigm shift by integrating vocational education into higher education and creating additional capacity and variety across public and private institutions and establishing new institutions.
- To promote internationalization in higher education through collaborations with foreign governments/institutions and regional research consortiums. In particular, the state should focus on Asia and Africa considering the significance of these regions in the domain of higher education in the world.
- To promote autonomy, innovation and academic reforms in institutions of higher education in the State.
- To enhance and facilitate higher education through all modes - public, public-private and private initiatives
- To support interdisciplinary and multidisciplinary studies.

In line with this, the report suggests that the above-mentioned objectives should be operationalised within the framework of '3Es' - Expansion, Equity and Excellence - increase in enrolment while ensuring equity and excellence. Substantiating the objectives, the report outlines the strategies and policy recommendations for effective intervention of the state of Karnataka. The strategies for higher education system in Karnataka are classified into six broad categories:

1. Student-centric,
2. Faculty-related,
3. Curriculum,

4. Pedagogy and Assessment practices,
5. Governance/administration/service,
6. Vocational/lifelong education and
7. Internationalization.

These strategies are focused on how to reform the higher education system and larger issues affiliated with this system. The policy recommendations presented in the report exclusively point out to need-for-action by the state through planned policy interventions. Listed below are the policy recommendations which call for state's intervention.

- To establish an independent academy at the state level on a public-private partnership basis for all issues pertaining to teachers.
- To set up Karnataka Student Scholarship and Loan Authority to co-ordinate, disburse and manage the scholarships and loans to students who pursue higher education in Karnataka.
- To amend and overhaul Karnataka State Universities Act 2000 with regard to existing governance of higher education (fostering autonomy and streamlining appointments of VCs and other statutory offices) and aligning universities to the new vision of the state and create an educational architecture which is relevant for 21st century.
- To incentivize opening of women and evening colleges, weekend colleges/institutes and hostel facility for women students by offering scholarships, transport and mid-day meal facilities.
- To establish District Universities in Karnataka with appropriate funding and an autonomous governance structure.
- The budget of the Department of Higher Education must be enhanced to an annual spending of 2% of the GSDP and must be at least 30% of the overall education budget.
- The state should endeavor to provide twelve years of schooling as a minimum education as against the existing eight years.
- To restructure the existing State Council for Higher Education in order to play the role of a think tank as envisaged in NCHER Bill of GOI.
- To allow Universities to float long term, 10 year + bonds for creating necessary academic and hostel infrastructure, labs, libraries etc.

- The Department of Higher Education needs to be contemporary in its outlook and must constitute an advisory board with insiders and external stakeholders including representatives of industry.

In summary, the report suggests that ensuring access with equity and excellence in higher education is the most important phenomenon towards constituting a robust knowledge society. Seen from the perspective of transforming Karnataka into a knowledge society, the objectives and suggested strategies along with policy recommendations in the 'Higher Education Vision – 2020' document are significant for the state to accomplish the vision of transforming Karnataka into a vibrant knowledge society.

HIGHER EDUCATION IN INDIA AND KARNATAKA

The 21st century is witnessing unprecedented changes in the sphere of development. A recent report of PricewaterhouseCoopers points out that by 2050 (Table 1), in US dollar terms, India will overtake Japan and the UK, and, in PPP terms, the Indian GDP will be equivalent to that of the United States.

Table - 1

Comparison of Current and Projected Gross Domestic Product of Selected Countries

Country	GDP in US $ terms		GDP in PPP terms	
	2005	2050	2005	2050
USA	100	100	100	100
Japan	39	23	32	23
China	18	94	76	143
UK	18	15	16	15
India	6	58	30	100

Source: Pricewaterhouse Coopers Report: World In 2050 cited in P. Rama Rao and B.K. Anitha, 2009 Pg. 86.

Besides this promising economic prospect, India is likely to have a demographic advantage in the world. The UN world population prospects database 2010 suggests that the working age population, of 15-64 years, will increase in India in the future.[1] Consequently, nearly one in five of the work force in the world will be an Indian, although the challenge of providing 'good' jobs for this large working community remains. This vast human resources base is a tremendous opportunity but at the same time also a difficult challenge in terms of effective utilization of these resources. India will need to increase its Gross Enrolment Rate in Higher Education and skills in its youth to take advantage of this demographic dividend. The existing education system in India will have to make a visible shift to integrating analytical and technical skills for research and innovation. Unless we are able to achieve the goal of effectively cultivating such skills in our young population, it is impractical to visualize India as a prosperous nation in the future (Rao and Anitha, 2009).

Karnataka has been a pioneer in establishing science and technology institutions that have international standards. Karnataka has now been globally acclaimed for its achievement in the high technology manufacturing service sector, particularly its IT sector,

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[1]United Nations, Department of Economic and Social Affairs, Population Division (2011): World Population Prospects: The 2010 Revision. New York.

which has been recognized as the second largest in the world. Given this status, Karnataka should now emerge as a global centre of excellence in education. For this to happen, it is essential that the State not only envisions achieving an education level which is the best in India, but one which is also competitive with countries of comparable size/system.

The transformation of Karnataka into a vibrant knowledge society by 2020 will witness an increase in student enrolment with the actual numbers increasing from 12, 60,038 (18.1% GER) [2012-13] to 22,58,000 in 2020, reaching a GER of 35%.[2] This transformation should be entirely student centric, where the nature of expansion will reflect the student aspirations. As a point of departure, the higher education institutions in the state should design courses in accordance with the demand of students and match them appropriately to the dynamic work space that reflects employment opportunities both at the national and global level. Students need flexibility in choosing courses to prepare themselves for their careers and aspirations, which vary, especially at the extremes. In the drive for healthy competition, higher education institutions should continuously innovate and align with contemporary changes to be able to attract the best students. In other words, students should no longer be limited by the choice of conventional courses offered by colleges that do not prepare them for a smooth transition into the world of work. Opportunities should also be provided for continuing higher education and training in order to create a notion of citizenship and responsibility.

Tables 2 and 3 below demonstrate a critical perspective on key comparisons with countries of comparable population.

Table - 2

Comparison of GER and Expenditure on education by share of GDP

Country	Karnataka	South Korea	United Kingdom	France	Germany
GER (%) •	18.1# (2011-12)	98.9+ (2008)	57.42+ (2008)	54.58+ (2008)	47.94+ (2008)
Expenditure (% of Education Budget to total GSDP 2009-2010)	2.92^ (2010)	5.0* (2009)	5.16* (2009)	5.9* (2009)	4.6* (2008)

[a]Percentage of Gross State Domestic Product (GSDP), as per the 11th plan outlay (2007-2012). The 12th plan aims to invest 6% in Education sector.

Sources: #Statistics of Higher and Technical Education 2009-10 (Provisional) MHRD, GOI. [a]http://planningcommission.nic.in/plans/stateplan/Presentations12_13/Karnataka_1213.pdf accessed on August 26, 2012. +www.data.worldbank.org/indicator accessed on 24 August 2012 and *www.indexmundi.com/south_korea/education_expenditures.html accessed on 24 August 2012.

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[2]Deloitte (2012), Higher Education GER Projections for Karnataka (report prepared for the Karnataka Jnana Aayoga (KJA), GOK.

^Analysis of budgeted expenditure on education (2009-2010). MHRD, GOI (Planning, Monitoring and Statistics Bureau): New Delhi. P: 54.

Table 3:

Comparison of GER and Expenditure on education by share of GDP among select states in India during 2009-2010

Country	Karnataka	Maharashtra	Tamil Nadu	Andhra Pradesh	Kerala
GER (%) •	18.1#	21.4	19.0	16.9	13.1
Expenditure (% of Education Budget to total GSDP 2009-2010)	2.92	2.45	2.40	2.62	3.10

Source: Analysis of budgeted expenditure on education (2009-2010). MHRD, GOI (Planning, Monitoring and Statistics Bureau): New Delhi. P: 54.

In the process of transforming to a knowledge society, the State is gearing itself to achieve higher enrolment of the population in the age group of 18-23 in higher education. The pass percentage of students during 2012 in the 10th standard was 73.90%. In accordance with the recent trend, girls outshone boys in overall pass percentage, boasting a figure of 78.81% to 69.57% for boys. One can assume that all these students will enter the PUC stream barring the small numbers which go for diploma. If the pass percentage of the PUC is 57.03% it means that a total of 3, 39,421 students are eligible for higher education for that year. In addition, the CBSE, ICSE and the Kendriya Vidyalaya system have students completing standard XII. The GER for the year 2012-2013 can be estimated to be 21.8.[3] To set a target of GER at 35% by 2020, so as to be the top State in India and also compare favourably with other leading emerging and OECD countries, it is estimated that higher education in Karnataka has to expand from a total student capacity of 12,60,038 (18.1 GER) [2012-13] to 22,58, 434 (35% GER).[4] This expansion must be accompanied by changes in quality to produce knowledge workers who would meet global standards. Equally important is to ensure the flow of students into higher education by steadily increasing the success rate in the 10th standard as well as the 12th standard.

For the year 2009-10, the GER at different levels of education starting from primary education to higher education shows a decline from 104.7 in standard I to 18.1 in the

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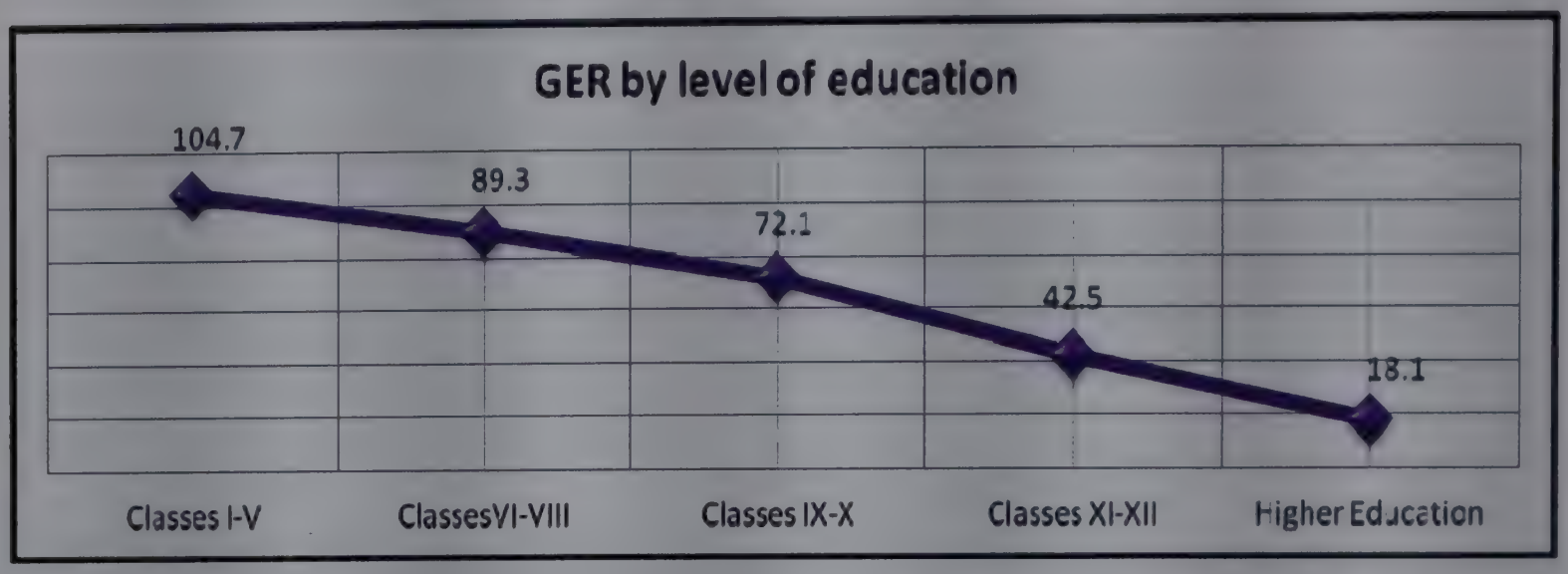
[3]Deloitte (2012), Higher Education GER Projections for Karnataka (report prepared for the Karnataka Janna Aayoga (KJA), GOK

[4]*Ibid*

college. Figure 1 below indicates the variation of GER with the increase in the level of education in the State of Karnataka.

Figure 1:

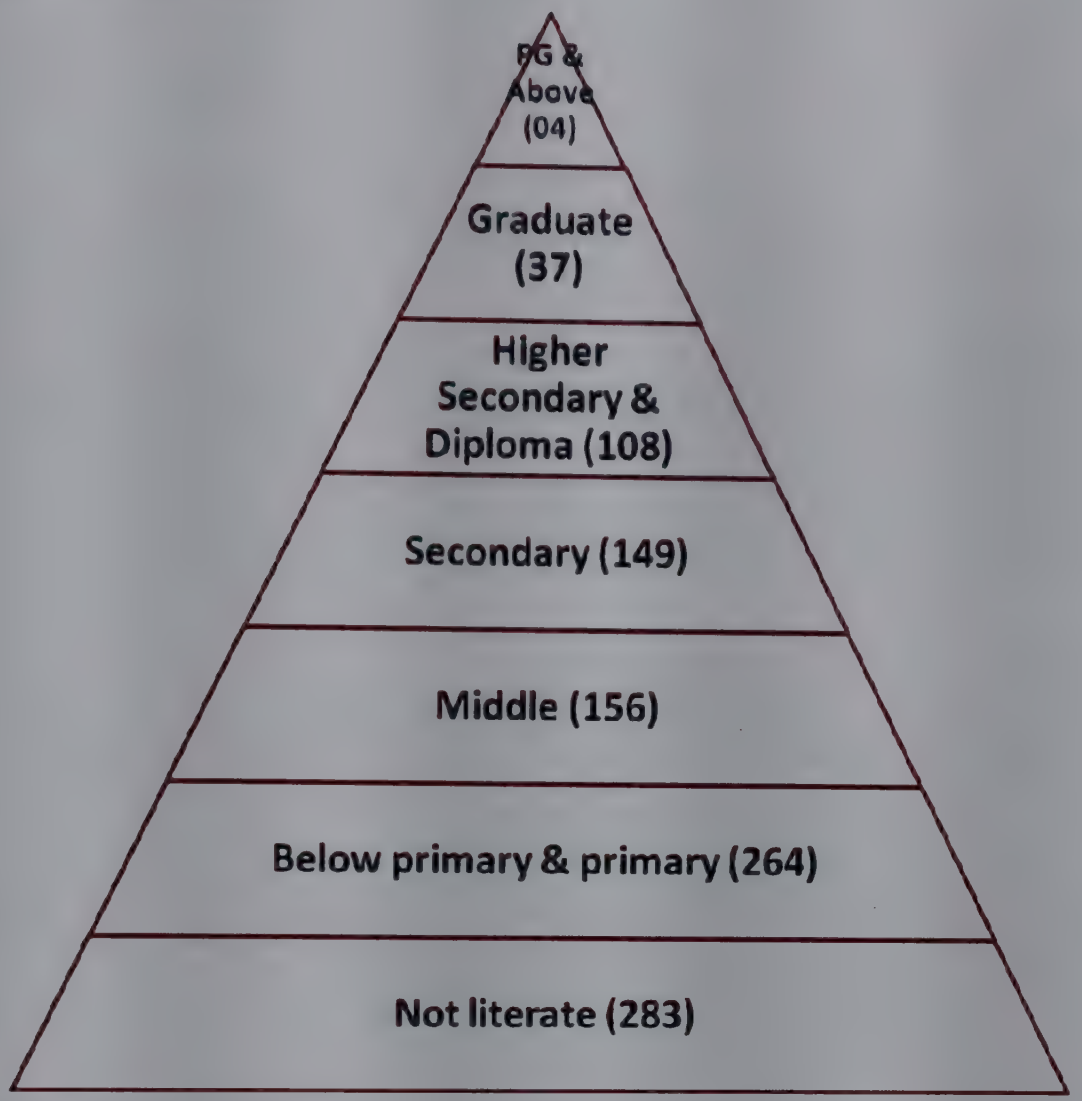
GER by level of education in Karnataka



Source: Derived from Statistics of Higher and Technical Education 2009-10 (Provisional) MHRD, GOI; Statistics of School Education (*Provisional*) cited in Sector paper for Karnataka's 12th Five Year Plan (2012-17) for Karnataka Evaluation Authority, Planning, Programme Monitoring & Statistics Dept. GOK. (Includes Distance Education)

To be able to reach a GER of 35% in the year 2020, the number of students progressing to higher levels of education has to increase considerably. The drive to increase enrolment at all levels has to be accompanied with increased quality of learning so that the number of students who pass school is sufficiently large to provide the necessary intake to reach the targeted GER of 35%. It is also essential that Karnataka take a policy decision to make twelve years of schooling available for every child as a minimum against the existing system of eight years under the Right to Education Act. This will reduce attrition in the education system in the schools and also enable a better educated population where the minimum level of education will be twelve years of schooling. For the year 2009-2010 the break-up of total citizens and their educational accomplishments in Karnataka is as follows (see figure 2 below).

Figure 2: Distribution of persons of age 7 years & above by level of general education in Karnataka (2009-10) per 1000



Source: Report of employment and unemployment survey (2009-10), Ministry of Labour and Employment, GOI derived from Sector paper (2012) for Karnataka's 12th Five Year Plan (2012-17) for Karnataka Evaluation Authority, Planning, and Programme Monitoring & Statistics Dept. GOK.

From this table, we can see that the total number of citizens with higher education is only 41 out of 1000! These numbers must improve dramatically if Karnataka is to achieve its vision of becoming a Knowledge society by 2020.

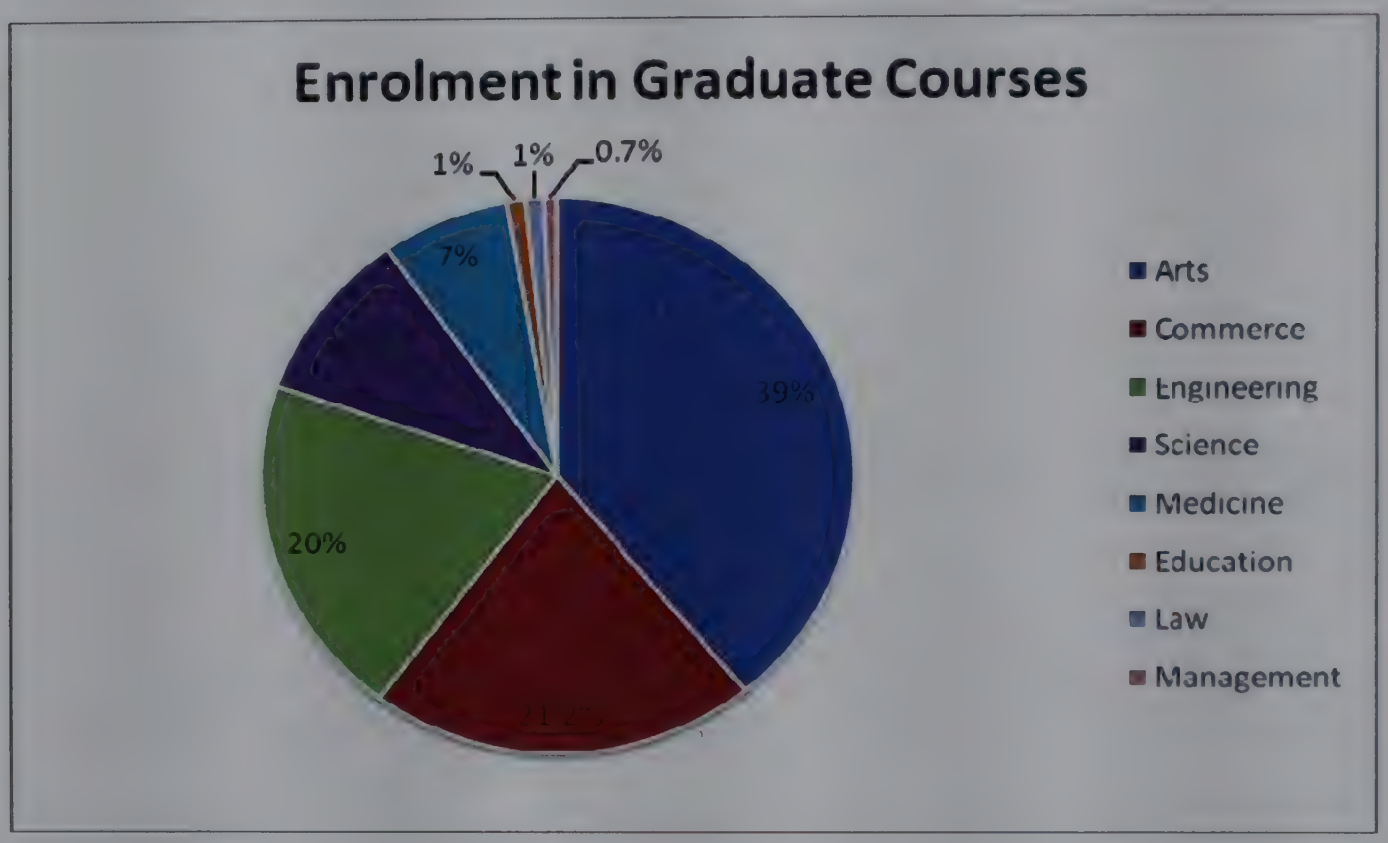
The gross enrolment in higher education in Karnataka is steadily rising over the years. The GER in higher education in Karnataka is 18.1% in 2011-12 as compared to 12.9% (in 2007-08) and 13.6% (2008-09).[5] The GER for men was 19.8% and for women it was 16.3%. The GER for SC was 18.4%, with GER for men among the SCs being 22.5% and women 13.9%. The GER for ST was 14.9%, with GER for men among the STs being 18.5% and ST women 11.0%. In actual numbers, the total enrolment in Karnataka in 2011-12 was 12, 60,000. For a GER of 35% in 2020, the total enrolment of students in higher education should increase to 22, 58,000.

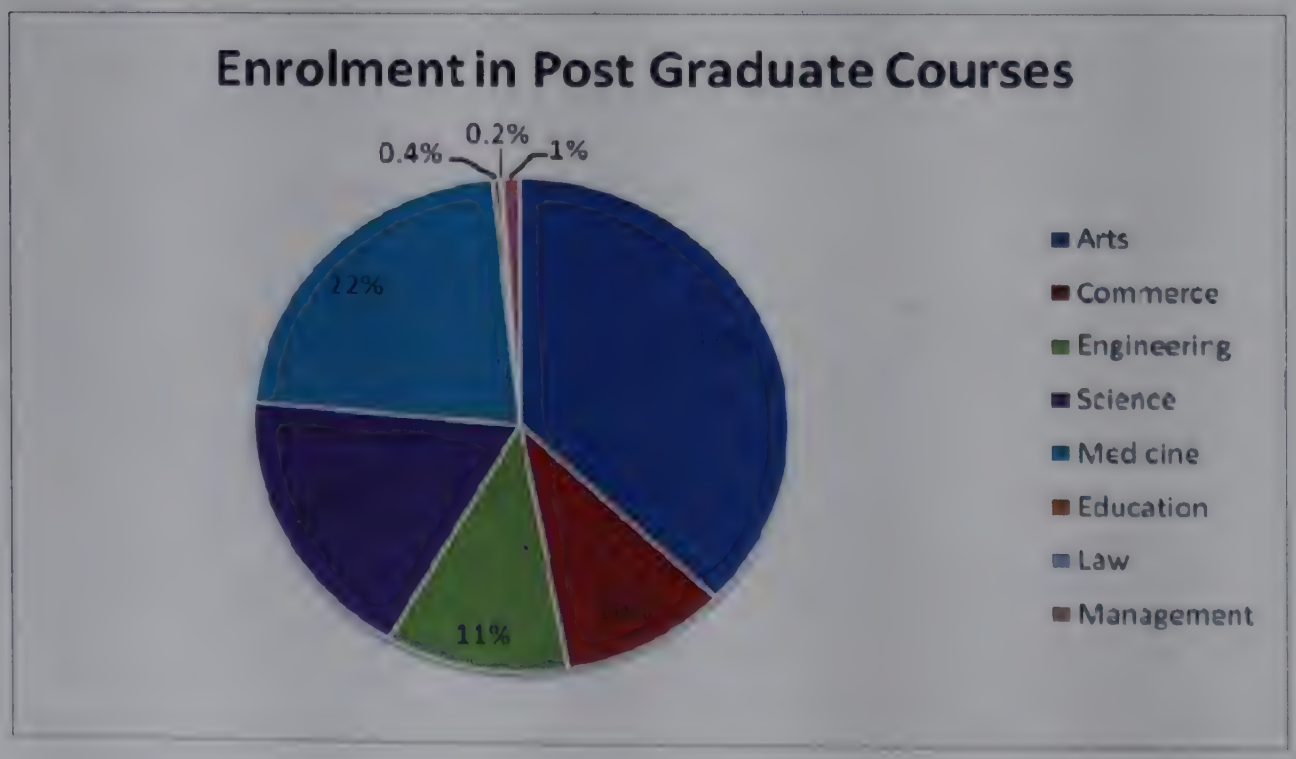
The distribution of enrolment in graduate and postgraduate courses across different streams in the year 2010-11 shows the following.

Table 4: Enrolment in graduate and postgraduate courses in Karnataka (2009-10)

Courses	Arts	Commerce	Engineering	Science	Medicine	Education	Law	Management
Under Graduate	349668	190548	178432	90144	63260	9362	9308	6198
% of Enrolment	39	21.2	20	10	7	1	1	0.7
Post Graduate	11034	2938	3398	5474	6732	127	72	282
% of Enrolment	37	10	11	18	22	0.4	0.2	1

Source: Statistics of Higher and Technical Education 2009-10 (Provisional) MHRD, GOI.





For the year 2010-2011, 3134 institutes were under collegiate education. More than half (51.9%) are unaided thereby illustrating the growth of the private institutions in the higher education sector. A majority of the engineering colleges (87.2%) and polytechnics (57.4%) are private institutions.

The state-wise distribution of PhDs awarded for the year 1998-2007 show that Karnataka has a share of 6.1% amongst States and is much lower than Maharashtra and Andhra Pradesh.[6] Important indicators for research and development with regard to higher education are publications, the associated impact factor and the number of awarded patents. The publications in the year 2006-07 of the different state universities in Karnataka reveal that the published paper to faculty ratio is the highest for Gulbarga University with 2.58 and is the lowest for Kuvempu University with 0.54. However, the impact factor of these publications has not been considered.

Karnataka is ranked 4thamong all states in India in terms of the number of patent applications filed in 2009-10 with 755 applicants out of 7044 Indian applicants. Further, Karnataka ranks 2nd with 12.4 patent applications per million populations. But both these rankings are misleading since there are a large number of research institutions (outside the purview of universities) in Karnataka and these institutions are the main agencies as far as total research publication and patent filings are concerned.

According to the *Higher Education in India at a Glance*, UGC, 2012, the total number of universities and university level institutions in Karnataka (2010-2011) was 44 with 22 state universities, 2 private universities, 18 deemed universities, one central university and one institution of national importance. The total number of colleges in Karnataka in the year 2010-2011 was 3078. Karnataka has a total of 63,743 teachers in higher education, with a pupil teacher ratio of 15.[78]

The total capital outlay for education in Karnataka under the 11th Five year plan (2007-2012) was Rs. 8.412.04 crores. Of this amount, Rs. 1,368.70 crores (16.27%) was allocated to higher education which includes university, collegiate, technical and vocational education. The budget estimated for the 12th five year plan in the State of Karnataka for higher education is 6% of the GSDP which is higher than the 11th five year plan of 3.3% GSDP. Such being the backdrop of higher education in Karnataka, it is desirable and imperative to have a clear shared vision and March towards achieving it.

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[6] Trends in Higher Education: Creation and Analysis of Database of PhDs in India, Anitha Kurup and Jagdish Arora, National Institute of Advanced Studies, 2010.

[7] Statistics of Higher and Technical Education 2009-10 Provisional) MHRD, GOI

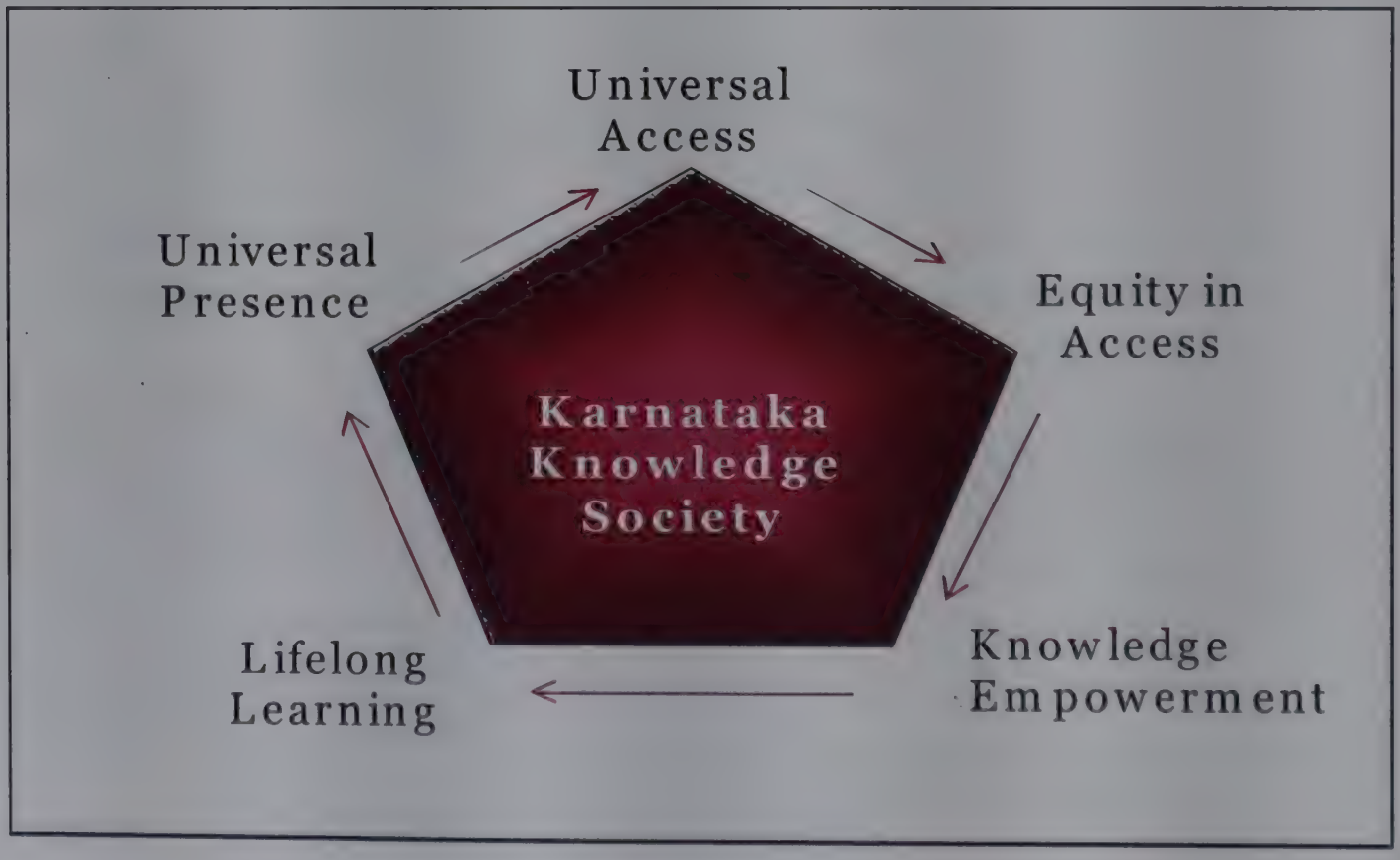
[8] Total number of Teachers was 63743 for 937131 total number of students enrolled (MHRD, 2009-2010).

Vision for Karnataka's Higher Education

To transform Karnataka into a vibrant knowledge society and a centre of excellence in higher education, comparable to global standards, with universal and equitable access, wider choice, flexibility and quality, in an educational environment that promotes creativity, entrepreneurial spirit and a sense of responsible citizenship.

Transforming Karnataka into a vibrant knowledge society

One of the twelve key areas of transformations to achieve as stated in the Vision 2020 of Karnataka is to transform the State into a vibrant knowledge society. To achieve the same, the State has created a niche for itself in knowledge intensive sectors such as space technology, electronics and communications, software, information and communications technology, biotechnology and so on. The State needs to build on these capabilities to sustain and enhance its competitive advantage. This competitive edge will require an effective application of knowledge in sectors like health, agriculture, rural development, small scale industries and so on for improvements in the citizens' quality of life. As a prelude to this, the state must ensure that the intrinsic characters of a knowledge society are activated and all pervasive. The diagram below captures the intrinsic characters of a knowledge society and its connectivity with each of the elements.



1. **Universal Presence -** There exists Knowledge in all
2. **Universal Access -** Knowledge is available to all
3. **Equity in Access** Knowledge is equally accessible to all
4. **Knowledge Empowerment** - Bottom Up Approach to empower the society's citizens
5. **Lifelong Learning** - Continuous process of learning, development and knowledge generation

All these characteristics point to three key components of a knowledge society. They are:

- Knowledge **creation**, for producing new knowledge
- Knowledge **dissemination**, for spreading and sharing knowledge
- Knowledge a**pplication,** for transforming knowledge into effective action

Given this context, if knowledge is taken as a pyramid there exist three tiers: economically dominant, educationally dominant and culturally dominant. The higher education system covered under the educationally dominant tier contributes in a significant way to the economic and cultural tiers. Hence, education in general and higher education in particular contributes to transforming Karnataka into a vibrant knowledge society. In order to ensure this transformation towards knowledge society, the higher education system in Karnataka should aim to achieve following broad objectives:

Objectives

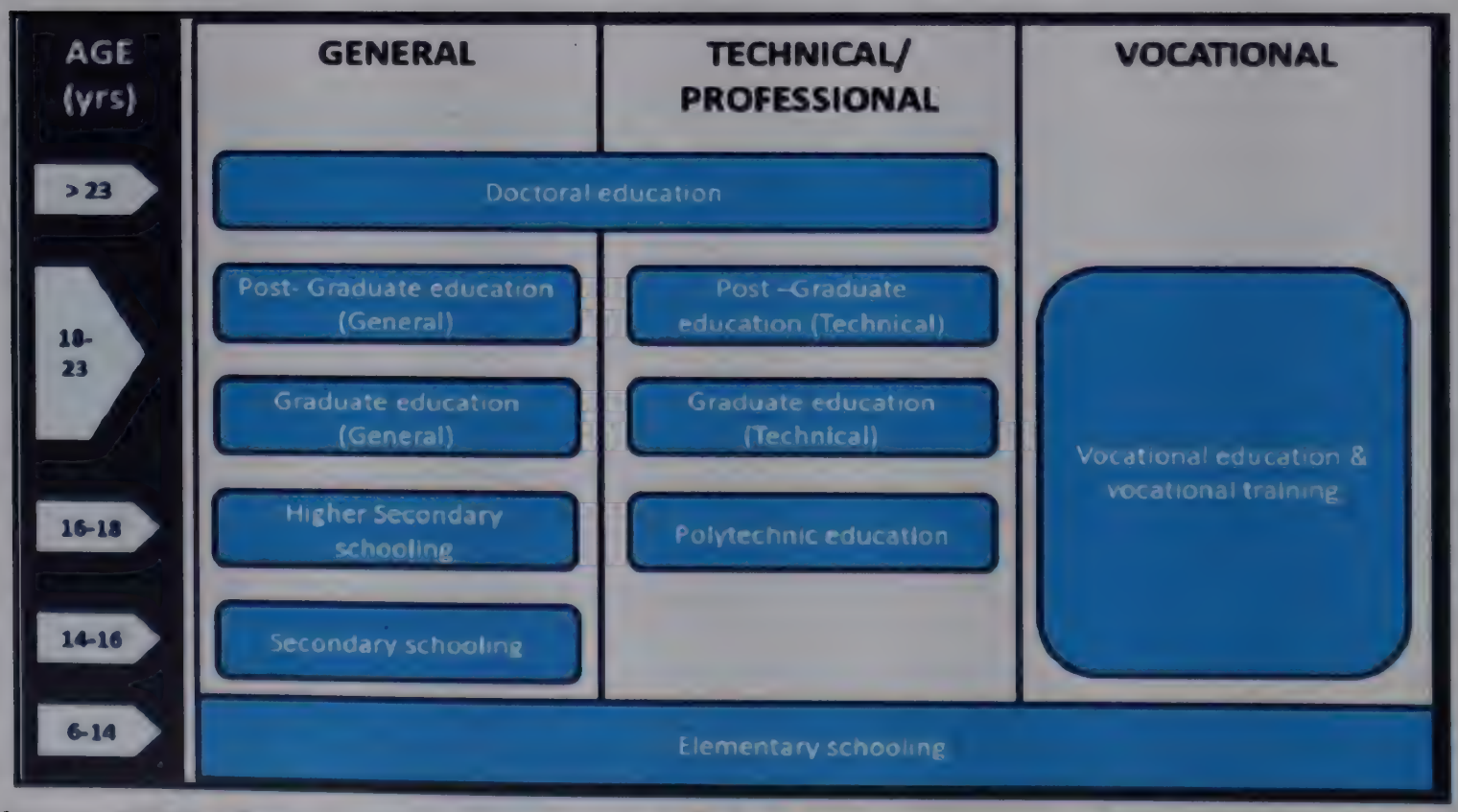
- To provide opportunities to pursue higher education to all and remove disparities by promoting the inclusion of socio-economically deprived sections, women and differently-able persons.
- To enhance support for faculty development in colleges and Universities, and attract high quality talent for careers in teaching and research.

- To undertake reforms to ensure efficient and creative assessment, relevant curriculum and pedagogy practices, and to ensure that these reforms are student-centric in their orientation.
- To expand the institutional base of higher education, by making a paradigm shift integrating vocational education into higher education and creating additional capacity and variety across public and private institutions and establishing new institutions.
- To promote internationalization in higher education through collaborations with foreign governments/institutions and regional research consortiums. In particular, the state should focus on Asia and Africa considering the significance of these regions in the domain of higher education in the world.
- To promote autonomy, innovation and academic reforms in institutions of higher education in the State.
- To enhance and facilitate higher education through all modes - public, public-private and private initiatives.
- To support interdisciplinary and multidisciplinary studies.

To realize the above objectives, it is imperative that the forward and backward linkages between general, technical/professional and vocational education across the different levels of education starting from school education onwards is properly understood and analyzed. Figure 4 below illustrates the higher education structure in Karnataka representing the potential linkages.

Figure 4:

Structure of higher education in Karnataka



Source: Deloitte Sector paper for Karnataka's 12th Five Year Plan (2012-17) from Karnataka Evaluation Authority, Planning, and Programme Monitoring & Statistics Dept. GOK: Pp. 7.

The State can transform the higher education system and achieve the objectives described above by implementing the following mission.

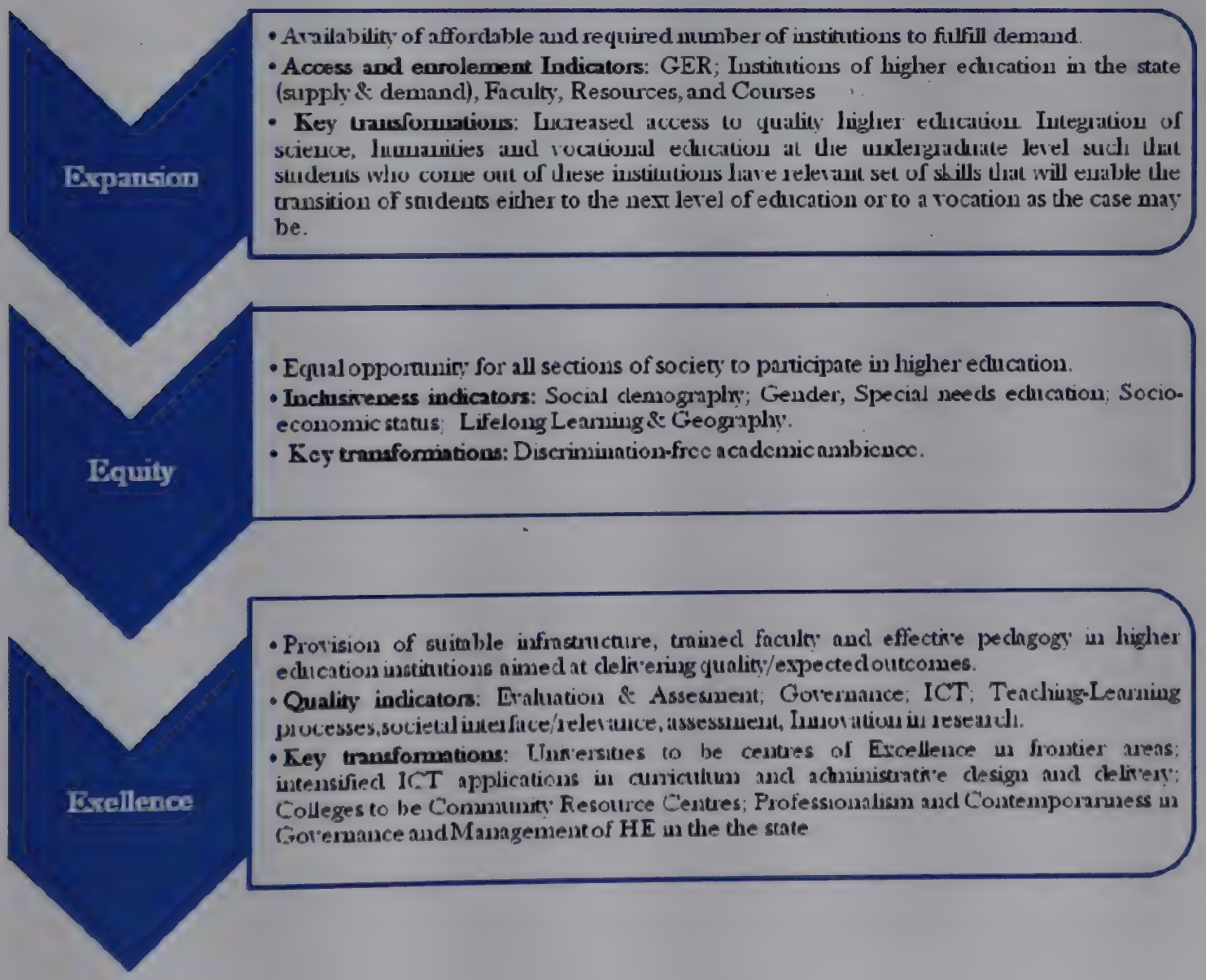
Mission

The mission of the higher education system in Karnataka for 2020 is stated below.

- Expanding the capacity of existing institutions or creating new institutions that provide education, engaging more faculty, increase in resources and increase in the depth and diversity of the kinds of courses offered
- Ensuring equity in terms of geography, social/economic status, gender, special needs, and lifelong and continuous learning and
- Achieving excellence in terms of teaching-learning processes, research, innovation, governance, societal interface and social responsibility, assessment, relevance and the use of ICT

The vision for transforming the higher education system in Karnataka to build a vibrant knowledge society and become a centre of educational excellence is contingent on addressing the issues of *expansion, equity, and excellence*. Expanding on the fundamental principles mentioned above, it may be desirable to aim for these key transformations by the year 2020. Figure 5 below lists the core elements of the mission and its key indicators and potential transformations.

Figure 5: Core elements, indicators and transformations towards vibrant knowledge society


Expansion
• Availability of affordable and required number of institutions to fulfill demand.
• Access and enrolement Indicators: GER; Institutions of higher education in the state (supply & demand), Faculty, Resources, and Courses
• Key transformations: Increased access to quality higher education. Integration of science, humanities and vocational education at the undergraduate level such that students who come out of these institutions have relevant set of skills that will enable the transition of students either to the next level of education or to a vocation as the case may be.
Equity
• Equal opportunity for all sections of society to participate in higher education.
• Inclusiveness indicators: Social demography; Gender, Special needs education; Socio-economic status; Lifelong Learning & Geography.
• Key transformations: Discrimination-free academic ambience.
Exellence
• Provision of suitable infrastructure, trained faculty and effective pedagogy in higher education institutions aimed at delivering quality/expected outcomes.
• Quality indicators: Evaluation & Assessment; Governance; ICT; Teaching-Learning processes, societal interface/relevance, assessment, Innovation in research.
• Key transformations: Universities to be centres of Excellence in frontier areas; intensified ICT applications in curriculum and administrative design and delivery; Colleges to be Community Resource Centres; Professionalism and Contemporariness in Governance and Management of HE in the the state

Expansion – Access

In recent years, Karnataka has witnessed an increase in the GER, i.e., increase in the pool of candidates meeting the minimum entry level qualification for higher education. To reach a GER of 35% by 2020, higher education needs to expand to be able to accommodate approximately twenty two lakh (22, 58,000) students. This expansion can be achieved either by increasing the capacity of intake of students of existing colleges and universities and/or by increasing the number of institutions. Thus the system has to increase its capacity in terms of student enrolment. Alongside, increase in the number of quality faculty as well as infrastructure. The increase in student enrolment is possible only if opportunity is given to those who aspire for higher education, particularly for students from homes of first generation learners and those who belong to the under privileged sections of society. In other words, a vital shift from elite to mass higher education is needed if the GER has to increase. For this to be possible, education in all senses of the term has to become more inclusive.

Given this scenario, there are two major challenges with regard to providing access. Firstly, expanding the present size of the higher education sector and secondly, to ensure that the expansion is economically affordable to the larger population who were earlier not a part of the higher education system but have aspiration for higher education. The State has to play a very important role in ensuring that those deprived of higher education so far are given an opportunity to enter the domain of higher education. Access to higher education is the most important element for building a vibrant knowledge society.

In order to address the aspect of expansion in higher education in the State, some strategies are suggested, which include those related to enrolment and retention, expansion and enhancement of the higher education system, introducing innovative ways of access and facilitation of more public-private institutions of higher education.

Equity – Inclusion

The social demography of the population aspiring for higher education in the State is wide and varied. Accommodating this diversity is one of the most important concerns for Karnataka. Equity in higher education means equal or universal access to all sections of the society. Following are some of the key issues within the larger framework of expansion that needs to be addressed:

Gender disparity – Addressing the gender disparity is an important factor considering the rise in enrolment and contribution by women in higher education. At present, with a gender disparity index of 0.82, Karnataka ranks below Kerala (1.18) and Tamil Nadu (0.83). [9]

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[9] Gender Parity Index (GPI) is a female to male ratio in enrolment and participation in higher education institutions in this context. The index represents range from 0 to 1 (0 means inequality and 1 means equality).

Special Needs - Enable access and facilities to differently-able population including children who are gifted and talented. It is necessary to provide opportunities for them to study develop adequate skill and enable a smooth transition to the work space. There is a pressing need to extend infrastructural support and impart special skills to the teachers in all the higher education institutions across the State. As a matter of fact, there is no data source in the public domain for identifying the number of disabled/differently-able population in the age group of 18-23 years in the Karnataka.

Geographical disparity – According to the 61st Round of NSSO survey (2009-10), only 3% of the rural population have a degree, diploma or a certification in Karnataka. This suggests that there must be a major focus and drive to make higher education accessible to the rural parts of Karnataka. Among others, increase in the number of colleges and universities that provide a variety of courses in rural areas has to be prioritized. In addition, it is important that these colleges and universities have the required infrastructure and adequate numbers of quality faculty across all subjects. It is also necessary to develop specific programmes to provide opportunities to rural children to gain entry and be a part of the elite institutions in different parts of the State and the country. The report of Dr D M Nanjundappa Committee on regional imbalances in Karnataka would be an excellent source for identifying and working on reducing regional imbalances in terms of higher education also. It has identified most, more and backward taluks of Karnataka in terms of socio-economic development.

Economic divide – Bridging the divide between the rich and the poor is also essential to ensure better access and quality education for all. Research studies have revealed that despite the claim of the Government that school education is compulsory, free, and a fundamental right, schooling has several hidden costs for the poor. Given this reality, higher education becomes a distant dream for them.

Excellence – Quality

To be consistent with the suggestion for autonomy for higher educational institutions, quality assessment should be made with respect to the vision and mission of each university to ensure that they have policies and processes that are consistent with the stated vision/mission and that they have adequate autonomy and resources to pursue the stated vision/mission. This is what the Association to Advance Collegiate Schools of Business (AACSB) and European Quality Improvement System (EQUIS) accreditation bodies in management education do. There is no single definition of a quality standard. Institutions choose their vision/missions and pursue them in an endless journey. The accreditation body examines the appropriateness of the stated vision/mission of a university/institution to the goals of higher education, generally. They also critically consider the faculty capabilities,

recruitment policies, process of curriculum development, delivery and the means by which faculty strive to ensure that the stated learning goals are accomplished.

Although there is ample research and scholarship on the general topic of excellence, there is limited agreement about the criteria of excellence or mechanisms to determine it. As stated by the UGC, the purposes of Excellence in public universities could be to (1) recognize and reward high-quality academic programs at colleges and universities, (2) increase the quality of instruction through enrichment grants and (3) encourage academic excellence in all academic programs. Excellence in education, research, service, governance and administration is necessary for quality higher education. In these circumstances achieving excellence will have to essentially ensure the following:

- Periodic and mandatory accreditation of the institutions
- Reforming governance structures
- Periodic curriculum, evaluation and assessment reforms
- Ensuring faculty development and professionalism
- Innovation in pedagogy and research that could contribute to excellence

Strategies and Policy Recommendations

The core element of **expansion, equity** and **excellence,** i.e., the '3E' model, are central to the six strategies mentioned below. Thus, the '3E' model and the strategies and policy recommendations to the state provide a potential/possible road map to achieve 'Vision-2020' for higher education as envisioned by Karnataka. Strategies constitute the game plan whereas the policy recommendations at the end provide the direction to state interventions.

These are best addressed by classifying the strategies for higher education system in Karnataka into six broad categories: student-centric, faculty-related, curriculum, pedagogy and assessment practices, governance/administration/service, vocational/lifelong education and internationalization/relevance. It is important to highlight the fact that the three 'E' models are so extensive and dynamic that it cuts across the categories of strategies discussed below. These strategies are in consonance with the vision, mission and the objectives of transforming Karnataka into a vibrant knowledge society by 2020.

Student-centric strategies

Students are the heart and soul of the higher education system. They are the majority and also the most vulnerable in the system. To revitalise the higher education system in the State, the students need to be central to the process and their aspirations need to be the driving force as we move along. Given this context, it is important to highlight the need for student related strategies in achieving the stated objectives of the vision document.

Recommendations

1. Allow all universities and colleges to start inter/multi-disciplinary courses that combine science, humanities and technology, based on local needs and aspirations of students and alumni.
2. Students should have the flexibility to move from one university/college to the other within the state and the course credits should be transferred based on the approval of the respective universities/colleges.
3. Allow private colleges, which have excellent track record for more than 15 year existence and having scholastic achievement at least 10% above the state average, to expand capacity freely in all courses subject to meeting norms regarding infrastructure, faculty, maintenance of a suitable faculty student ratio, fees structure and qualitative norms of Government/concerned agencies from time to time.
4. Allow the entry of new private universities based on objective and transparent criteria to ensure greater variety of courses and increased student order to subject to an independent and professional regulatory mechanism to dwindling

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5. Universities should be allowed extra supernumerary seats of 15% of the total sanctioned number of students to take students from other parts of India as well as other countries to encourage cosmopolitanism and internationalization of higher education in Karnataka.
6. In order to enable the entry of the educationally and economically disadvantaged sections into higher education, create quality hostel facilities in all state universities/Government and aided colleges as a special facility.
7. The state should provide special grant to universities to create excellent academic laboratory and state of the art equipment which is a pre-requisite for attracting students from both within and outside Karnataka.
8. Remove territorial barriers for admission of students in Universities and constituent colleges and enable the universities to set up campuses in any part of Karnataka, thereby giving opportunities for students in those areas to join good university programs as perceived by them.
9. Expand the intake into Masters and PhD programmes in all universities by creating a comprehensive scholarship programme such that the capacity of these programmes is at least 20% of the total undergraduate capacity by 2020.
10. All block grants to colleges and universities need to be replaced by student based funding and scholarships to needy and deserving students over a period of time. Colleges and Universities should be asked to levy fees for all courses based on their normative costs, as agreed by a Fee Fixation Committee headed by a High court Judge. The State should give scholarships to all Students, meeting 100% of the costs of students belonging to SC/ST/OBC/minorities and others who currently get fee waiver/concession and also for students who come from families with income levels less than Rs 3, 00,000 per annum. Part of the scholarship should be used for payment of fees and the balance for meeting their living expenses. The fees should be directly paid on their behalf to the colleges and Universities, and living expenses credited to the bank accounts of students through the Karnataka Scholarship and Loan Authority. This will ensure that colleges and Universities compete for students and give high quality education as their survival will depend on their ability to attract students.
11. The Universities and Colleges must carry out a Survey on the Changing Aspirations and expectations as well as employability of Students with regard to education system/courses once in every three years. Such a survey gives not only feedback but direction to the kind of courses to be designed and their contents.

12. Career Guidance and Counselling Cells be opened in all affiliated/autonomous colleges and post-graduate departments. These Cells have to have specific time table and suitable/professional staff to guide the students. In addition, there can be a Student helpline as well as a Portal to address such needs of the students from different streams.
13. Student representatives/organizations should be involved in the various stages of decision making processes concerned with educational policies, activities and management. Elected student representatives can be part of university bodies so as to communicate the students viewpoints. Such mechanisms have to be set up in all affiliated and autonomous colleges also.
14. Every student pursuing graduation and above in colleges and universities in Karnataka should be provided with a free tablet, with preloaded curriculum in rich multimedia and interactive, which will support self learning.
15. Educational institutions should consider the possibility that at least 40% of the internal assessment of the students be done electronically to reduce the load of manual assessment.
16. Students feedback on teachers as well as the course must be introduced in all Universities of Karnataka. Their expectations and suggestions as well as the alumni need to be obtained in a structured and formal manner. This feedbacks as well as action taken need to be published and publicised from time to time. These need to be uploaded on to the website also.
17. Introduce a six month internship mandatory for every undergraduate course where the student engages with a real world/societal problem and works with an industry that is likely to employ him/her based on his/her training. There can also be a provision to acknowledge any additional courses and projects undertaken by students beyond course requirements.

Faculty related strategies

The unprecedented expansion of the higher education system in Karnataka in the last decade has not been matched by the required number of faculty that these institutions require. According to Karnataka Expenditure Reforms Commission (Feb, 2011), 13.6% of positions of lecturers were vacant in 2010. While faculty shortage is witnessed across higher education, it has been acutely felt in some specific disciplines and also in disciplines, primarily professional, that have grown at an enormous pace. There has been no serious effort to assess the total number of faculty required in the different disciplines to match the growing enrolment. In the absence of reliable data, planning and monitoring in order to address the faculty needs of institutions is far from being realized. In addition to dwindling quantity of faculty, the quality of these faculty members poses another major challenge. In

sum, the 'Q2 or Quality-Quantity' problem has now become one of the central issues of higher education in the State and the country (Task Force, 2011).

Recommendations

1. In order to address the purpose of higher education to create knowledge as a path to a knowledge society, there is a need to encourage research in all universities and colleges in Karnataka. There is a need for creation of Karnataka State Research Foundation with a minimum initial grant of at least Rs 50 Crore, governed by an independent board of governors consisting of eminent scientists, educationists and subject experts drawn from the public and private educational institutions, along with eminent citizens. The research grants must be based on objective and transparent criteria that must be available in public domain. Special incentives to recognize the contribution of the faculty to research and publications must be created. 15 % of all research grants made by the Karnataka Sate Research Fund must be given to individual faculty as compensation for their contribution to research, as is done in the IITs for example.
2. A critical review of current PhD programmes of universities needs to be undertaken such that these programmes are brought on par with the best universities abroad.
3. Introduction of teaching assistantship in all PhD programmes to allow the scholars to acquire some experience in teaching at the college level.
4. In-service faculty who don't possess Ph.D qualification must be allowed to pursue their PhDs with full pay protection to enhance their capabilities of teaching and research in the long run. They must be given a sabbatical of at least one year once in six years, with full pay and protection of all benefits, to pursue their research in institutions of repute within the country or outside.
5. The faculty must have the freedom to move within a university and across universities in the state and their benefits and seniority must be protected subject to the Universities needing their services.
6. Assessment and faculty review needs to be integral to the process of enhancing faculty quality in higher education institutions. Norms that are transparent should be developed and discussed with the faculty during the beginning of the review period. Annual review mechanisms need to be instituted in all higher education institutions with clear feedback provided to individual faculty. Norms of UGC regarding API score could be made use of for this purpose. All these details could be updated to the faculty profile on the website.

7. Establish international faculty exchange programs with universities in other countries and industry, to enable a constant exchange of faculty from both directions.
8. Faculty who are deemed to be excellent under a transparent evaluation system should be taken on a contract up to five years after retirement so that their services are available. Universities must be allowed to create positions of emeritus professors, distinguished professors, senior visiting professors etc., in order to use their services for this extended period.
9. Every Teacher in service, and when appointed, should be given a free laptop and also given suitable training to use technology in teaching. It is also advisable to develop a standardized certificate course for this purpose.

Assessment, Curricular and Pedagogy practices

Curriculum, pedagogy and assessment are considered to be fundamental for quality in higher education. They go hand-in-hand and are largely determined by the faculty, students and the type of the institutions. Assessment reforms are central to curricular and pedagogic practices in higher education. Whereas, little attention has been given to the evolution, practice and reform of these core elements at present.

Recommendations

1. All undergraduate courses should have the first year as a general course where students are exposed to a variety of academic topics. The second, third and subsequent years should be designed to have 70% mandatory courses in the subject of specialization and 30% electives. The undergraduate degree will have one major and one or more minors, thereby enlarging the skills set of the students. Students should have flexibility to take courses of their interest across all years of study and should be able to choose subjects across the disciplines of natural science, humanities and the social sciences.
2. Ensure as much as uniform focus as possible on Sciences, Professions, Vocations, Fine Arts, and Humanities/Social Sciences – all of which are necessary for the development of a knowledge society.
3. While formulating the syllabus for UG programs, the Board of Studies of the University could design only 75% of the total syllabus and the remaining 25% could be designed by the appropriate body of the affiliated college based on the local needs, students expectations and changing societal trends.
4. All the universities must seriously consider introducing a four-year undergraduate programme in the arts and sciences instead of the currently followed practice of three years.

5. Equip faculty to create credit based courses that are relevant and contemporary in nature. If need be, provide a massive state level training to equip existing faculty with the necessary skills to be able to design innovative and relevant credit based courses.
6. The State Universities needs to build a database of subject experts who will actively participate in the exercise of curriculum review. Outside experts from leading universities in the country and the world need to be a part of this database. Such faculty and experts could participate through virtual media. Video conferencing and other facilities could be provided at select centres of University for this purpose.
7. Encourage open courses that are developed by quality institutions to enable faculty from colleges and universities to derive benefits from this exercise. Credit can also be given to them in their performance evaluation/review.
8. Allow adjunct faculty from industries to organize course for students which will increase the academia- industry linkages.
9. Content should be created and technology leveraged to promote teaching in Kannada as the web allows a much better way to create content.
10. Every college should be connected to the internet through 3G/wifi so that students can freely access the web, with every student being given a free laptop. Separate classes could be introduced to empower them in this manner with minimum faculty facilitation.
11. All Universities/colleges should be networked with large capacity broadband so that education delivery and assessment can be done using technology.
12. There must be more effective use of Tele-Education & Community Radio as a means for knowledge dissemination.
13. All Universities should be allowed to offer distance education/e-learning courses so that students can access the best available courses with the greatest variety. All restrictions on distance education should be removed including reserving distance education only for the Open University. The students should be given the choice of the e-learning course that they wish to do from a University of their choice.
14. Universities could introduce a range of virtual or On-line courses as part of their curriculum for various regular programs.
15. Karnataka's vision of creating a Knowledge Society can be achieved by creating a fully wired State, with easy availability of access to the internet, students becoming net savvy and teachers/faculty being trained to use technology. This single investment will give the greatest return in achieving the vision in the shortest possible time. An exclusive task force on this could be set up.

16. A large part of the curriculum at the under graduate level should be devoted to developing problem solving skills of students, application of knowledge and must move away from rote learning and memorization. The role of the teacher should be that of a facilitator rather than a disseminator of knowledge. Creation of knowledge will be a joint activity of faculty and students during the course of learning. Project work in every course where practical application of knowledge will be demonstrated should be given at least 25% of the total marks.

Strategies for Vocational Education/Lifelong education

Both general education and vocational education play an important role in providing skilled workforce for the economy. Skilled labour is an important factor for economic progress of the State. However, general education is treated better in terms of funding, reforms and so on, in contrast to vocational education. As a matter of fact, vocational education is equally important to enhance the role of labour in the economy. One reason for the low GER is the tendency of some students to take up a job instead of continuing in higher education. Vocational education could potentially facilitate increase in enrolment at least among those who do not enrol in general education. Such paradigm shift in thinking about the need and relevance of vocational education is of utmost significance, given the fact that only 5% of the population of 19–23 age-group in India has acquired some sort of skills through Vocational Education. The corresponding figure for Korea is 96 % (11th Five Year Plan Document, GOI). Considering the relevance of such focus, the Ministry of HRD, GoI, has evolved a National Vocational Education Qualification Framework (NVEQF – 2012-2013) cutting across several vocational skills covering multiple phases.

In Karnataka, there needs to be a paradigm shift of vocational education from the current notion of what is officially referred to as vocational training. There is a need to develop a triadic relationship between science and humanities/arts education (including commerce) along with vocational education. Vocational education introduced at the undergraduate level needs to provide students with a broad range of skills related to the agricultural sector, manufacturing sector and the service sector.

Recommendations

1. To develop a State Vocational Education Qualification Framework and State Lifelong Education Qualification Framework, in order to provide common reference framework linking various vocational qualifications.
2. Provide a friendly ecosystem for Vocational Education which is employer and industry driven. Vocational education needs financial resources, infrastructure, faculty, curricula developers and assessment experts which are the essential building blocks. State must work towards an appropriate policy in this regard.

3. Amend the Apprenticeship Act in such a way that industries are encouraged to take in large number of apprentices to enable the success of vocational education.
4. Creating lateral entry into the higher education system that allows students who have taken a break in education to join employment to re-enter with ease. Further, facilitate mobility between vocational education and mainstream education through a system of credit transfer. The experiment of community colleges and associate degrees could be explored for this purpose.
5. Skill development be made an integral and mainstream part of all UG and PG courses of all universities in such a way that the students are imparted not only knowledge but also skill development and employability. This could be made possible by establishing special cells at the micro levels of Departments and a structural mechanism at the macro levels of Universities.
6. In order to facilitate the certification of traditional and non-formal skills at the community levels, universities could explore appropriate mechanisms. In addition, they can design and deliver various certificates, diploma and degree courses which will have hybrid characteristic of knowledge and skill development.

Strategies for Internationalisation

Globalization of Indian education will take place truly when India makes commitments in the sector of higher education and opens up both exports and imports. The emergence of the GATS (General Agreement on Trade in Services) regime and the drive towards treating education services as a tradable commodity will pose a further problem to the developing countries. In the future, higher education will see strategic initiatives for creating newer methods of delivery, new cross-border alliances and partnerships. This process of integration must be sensitive to diversity and the individual development of all the constituent nations, communities and cultures. The concerns surrounding social equity will remain to be addressed.

Recommendations

1. Replicate the European 'twinning model' to ensure two-way exchange/mobility of students/faculties.
2. Establish international relations offices/cells across all major higher education institutions in the State, ensuring coordination and standardization in internationalization processes. Comprehensive information about available courses needs to be made on the university websites according to global standards and wide publicity of the same needs to be undertaken to encourage internationalization.

3. Specific focus, on Asia and Africa might position Karnataka with a unique advantage, be given as the countries in these regions will have a major say in the world in the coming years.
4. Single regulatory authority/single window system to be instituted to regulate courses and policies with regard to internationalization in the State by the Government.
5. The State Government should help ensure effective and effortless visa processes for academic and research purposes, both for students and faculty immigrating to the State through the Union Government.

Strategies related to Governance/Administration/Services

Governing the mammoth and complex system of higher education is a demanding task. It demands constant reforms and their implementation. Some of the major issues discussed with regard to governance in higher education are: lack of autonomy in the real sense, over-centralization, less accountability, concern over the increased political intervention, lack of financial support, lukewarm response to private institutions and reforming intra-institution administration. Governance is the core of all major reforms towards progressive change in the higher education system.

Recommendations

1. The role of the State should be divided into three clear functions: i) as a facilitator, ii) as a regulator and iii) as provider of higher education. These roles should be distinct, separate and mutually exclusive to ensure good governance. As a facilitator the Department of Higher Education should focus on policy making and student empowerment. As a regulator, the State should create an independent and professional regulatory body to ensure quality and adherence to standards and policy. The Department of Higher Education should have a separate independent wing which will act as a nodal agency to discharge its function as a provider of higher education to ensure quality education in colleges and Universities run by the State.
2. Karnataka to evolve a policy to facilitate the entry of foreign universities into Karnataka based on objective and transparent norms and criteria laid down by the Government of India.
3. The State must develop an up to date database of higher education system including PhDs currently produced by the State and private universities in the State. Periodic updating of this database needs to be institutionalised to enable a trend analysis and decision making from time to time.
4. Colleges should be encouraged to become autonomous and all colleges which have been in existence for more than twenty years should be given special

grants to attain autonomy. The current norms for the grant of autonomy should be reconsidered and made more liberal to ensure that larger number of colleges seek autonomy. Permanent affiliation could be thought as a step towards autonomy. This will create multiple high quality educational institutions within the State.

5. All colleges and Universities within the State should get accredited within five years from a set date and their recognition and funding should be dependent on such accreditation. To ensure adequate capacity for this, the State should create a roster of a few approved accreditation agencies or set up its own accreditation agency.
6. Entrepreneurship development programmes in all Universities along with a centre for Entrepreneurship and Innovation must be established. Each university should also have an incubation centre to help incubate start ups and have a fund of at least Rs 10 crore each, funded by the State as an initial grant.
7. To encourage the creation of Intellectual Property (IP), each University should develop an IP centre which will help IP creation and protection.
8. To encourage research and provide administrative support, each university need to have a Director of Research to help faculty make proposals, identify sources of funding, monitor completion of research projects, create a repository of completed projects and projects under progress, market research projects, manage the IP created through research and help monetize the same.

Policy Recommendations

The strategies discussed above are primarily expected to help achieve Vision 2020. They are more to do with Universities and colleges. Some of them would need state support also. But, these strategies require proactive initiative from Universities in general and autonomous colleges in particular. Whereas, policy recommendations discussed below exclusively point to state and its policy. Hence, they are discussed separately and exclusively. In other words, strategies can be initiated by Universities and colleges independent of state policy because of their autonomous status except for budgetary support.

1. To establish an independent academy at the state level on a public-private partnership basis for all issues pertaining to teachers like recruitment, foundation/induction training, periodic capacity building, performance assessment, professional development, ethics, research and database management. The Academy should create a 1 year MBA programme in Academic Administration to develop capacity for leadership in universities and colleges. All heads of higher educational institutions should undergo this course in order to increase the efficiency and build professional capacity among them.

2. To set up Karnataka Student Scholarship and Loan Authority to Co-ordinate, disburse and manage the scholarships and loans to students who pursue higher education in Karnataka. Various schemes of Government of India and Karnataka would be subsumed under a single window to identify and encourage deserving and needy students in a transparent and user friendly manner based on AADHAAR identification. The initial fund can be created by levying a surcharge of 5% on excise duty on liquor which will amount to about Rs 500 crore per year.
3. To amend and overhaul Karnataka State Universities Act 2000 with regard to autonomy, fostering creativity among students, creating a knowledge State by 2020, separation of unitary and affiliation systems; encouragement to research and innovation; removal of geographical restrictions; flexibility and freedom to students, representation for students in university and college affairs; association between universities and other institutions of higher education to facilitate inter and multi disciplinary approaches to offering higher education. This Act should reflect the new vision of the state and create an educational architecture which is relevant for 21st century. This Act must also promote innovation, experimentation and flexibility in the governance structure of universities. Otherwise, it will become an obstacle for growth and development of higher education.

   The state must also formulate guidelines and process for selection of Vice-Chancellor and other statutory officers as well as for all nominations by the Chancellor and the state Government as a subordinate legislation to the Act.
4. To incentivize opening of women colleges and hostel facility for women students by offering scholarships, transport and mid day meal facilities. In addition liberalization of opening evening and weekend colleges/institutes, with special focus on skill development to encourage enrolment of women, minorities, Scheduled Castes/Tribes, other backward classes and differently abled people in backward regions to increase the GER up to 35 %, must be encouraged.
5. To establish District Universities in Karnataka with appropriate funding and an autonomous governance structure. They would be practice oriented and will supply educated manpower to address the skill gaps in each District. These district universities could be brought under the broad purview of present state Universities so that the former would address local needs and the latter will take care of higher and macro needs of state, nation and the world. These Universities could create capacities in different districts where courses are designed in tune with the local employment opportunities. Community colleges

can be linked to the district universities where the transition of the students from the community colleges to the universities is facilitated through lateral entry. Introduction of vocational courses related to agriculture, sericulture, mining, etc., in the district universities can be directly linked to the world of work within the district boundaries.

6. The budget of the Department of Higher Education must be enhanced to an annual spending of 2% of the GSDP and must be at least 30% of the overall education budget.
7. In order to enhance educational accomplishment and to create opportunities for all sections of society for higher education, the state should endeavor to provide twelve years of schooling as a minimum education as against the existing eight years. A pass of standard twelve should be the minimum requirement for entry into the government service at the lowest rung.
8. The present State Council for Higher Education must be restructured in such a way that it will address all the issues of higher education. It needs to play the role of a think tank as envisaged in NCHER Bill of GOI. An expert Committee consisting of eminent academicians from Karnataka and outside needs to be constituted for this purpose.
9. Allow Universities to float long term, 10 year + bonds for creating necessary academic and hostel infrastructure, labs, libraries etc. These bonds should be guaranteed by the State. The interest on the bonds should be paid by the Universities from their fee collection and internal funds while the principal upon maturity should be paid by the State. A sum of Rs 5000 crore in the form of bonds over the next 5 years may be allocated for this purpose. This would bring the infrastructure on par with the best in India. Many Universities have various funds invested in bank deposits and these may be invested in such bonds thus recycling of these funds.
10. The Department of Higher Education needs to be contemporary in its outlook and must constitute an advisory board with insiders and external stakeholders including representatives of industry. Some professionals could be taken as Advisors to advice and assist the Department in policy making. They should be laterally inducted into the government and their expertise must be available to plan higher education in the State. These Advisors should be chosen on a national/global basis to ensure adequate capability.

References

1. **Deloitte (2012).**Deloitte Sector paper for Karnataka's 12th Five Year Plan (2012-17) for Karnataka Evaluation Authority, Planning, Programme Monitoring & Statistics Dept. GOK.

2. Deloitte (2012). Higher education GER projections for Karnataka (report prepared for the Karnataka Jnana Aayoga (KJA), GOK.

3. **Kurup, A. *et.al.*** (2011) Executive Summary and Recommendations. Emerging Directions in Global Education (EDGE) forum.

4. **Kurup, A.& Jagdish,** A. (2007). Trends in Higher Education: Creation and Analysis of Database of PhDs in India. NIAS publications: Bangalore.

5. **Lavakare, *et.al.*** *(*2008) Executive Summary and Recommendations. Emerging Directions in Global Education (EDGE) forum.

6. **Karnataka State Higher Education Council** (*d.n.m)*. Vision 2020 – Higher Education Karnataka. Institute of Printing Technology building: Bangalore (Draft report).

7. **FICCI (2009).**Making the Indian higher education system future ready: Report.

8. **Sarukkai, S (*n.d.m).***Humanities Education in Karnataka: A draft note prepared for the Karnataka Knowledge Commission, Government of Karnataka.

9. **EUA (2007).** Creativity in higher education – A report. EUA: Belgium.

10. **NKC (2008).** Three years of NKC – A report.

11. **UGC (2012).***Higher Education in India at a glance.* University Grants Commission: New Delhi (February 2012).

12. **MHRD (2011).***Statistics of higher and technical education – 2009-2010 (provisional).* Ministry of Human Resource Development, Bureau for Planning, Monitoring and Statistics, Government of India: New Delhi.

13. **MHRD (2011).***Faculty shortage and design of performance appraisal system,* Report of the Task Force. MHRD, GOI: New Delhi.

14. **Rama Rao.P and B.K. Anitha (2009).** Challenges in Higher Education in the Face of India's Demographic Ascendancy in B.V. Sreekantan (Ed.) *Science Technology and Society*, IIAS Publications, Shimla, India.

15. **Karnataka Jnana Aayoga (2011)**. A Study on Building a Knowledge Society in Karnataka.

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KARNATAKA JNANA AAYOGA

About Karnataka Jnana Aayoga

Karnataka Jnana Aayoga (Karnataka Knowledge Commission), an autonomous high-powered commission, was constituted by Government of Karnataka on September 5, 2008 under the chairmanship of world renowned space scientist Dr. K. Kasturirangan. The mandate of the commission was to 'transform Karnataka into a vibrant knowledge society.' To accomplish this mandate and the given terms of reference, KJA formed working groups, mission groups and a taskforce comprised of domain experts, secretaries of the government & stakeholders. Under the visionary leadership of the chairman, KJA held several consultation meetings and evolved 89 recommendations spread across 12 focus areas and submitted to Government of Karnataka for implementation.

In collaboration with the line-departments, KJA piloted 10 projects, initiated flagship programmes like Jnana Fellowship & Jnana Shodha and launched several new initiatives with state universities. KJA undertook 9 research studies and pioneered in commissioning first of the kind state-wide research studies like *Building Knowledge Society in Karnataka* and *Perceptions, Aspirations, Expectations and Attitudes of Youth of Karnataka* based on which KJA recommended for an exclusive policy for the youth of the state.

Towards its term end, KJA submitted itself for an evaluation of its work by the Public Affairs Centre, Bangalore. The evaluation report was then submitted to the Government and also made available for public.

On completion of its over 4 year-term, Karnataka Jnana Aayoga acknowledges the support of Government of Karnataka in its endeavour towards transforming Karnataka into a vibrant knowledge society.

To know about the complete work of the KJA and for all the publications please, visit www.jnanaayoga.in

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